

Device for Rapid Detection of Cancerous Tissues

Product Introduction

A cancer detection device is a diagnostic aid tool that identifies suspicious cancerous areas based on an electrochemical phenomenon during surgery, assisting the surgeon in distinguishing cancerous tissue from healthy tissue. The presence of cancer cells remaining in the body after surgery leads to inevitable further surgeries and therapeutic measures, which come with many side effects. This device significantly reduces the probability of such complications. It is the unique technique in the world used during surgery to detect surgical margins with a pathologically confirmed classification in breast cancer.

Application

Detection of cancerous cells after tumor removal during surgery.







Ventilator

Product Introduction

This respiratory device has the task of simulating the process of inhalation and exhalation mechanically and electronically. It is used to improve or address respiratory issues in patients with various respiratory conditions, both in intensive care units and at home. The primary function of this device is to assist patients and enhance their breathing process.

Annlication

- Respiratory assistance in ICU
- Respiratory assistance for pulmonary patients







Coronavirus Test Kit

Product Introduction

This diagnostic kit has been designed and produced in a way that allows for the rapid detection of coronavirus infection. Such kits have the capability for quick coronavirus detection at home and help reduce the spread of the virus in the early stages of the disease. During the COVID-19 pandemic, Iran was able to act swiftly in diagnosing individuals infected

Application

Diagnosis of COVID-19







X-Mas Tree

Product Introduction

A Christmas tree is a piece of equipment in petroleum engineering that is ultimately used to connect the oil well to the oil and gas transmission pipes. In addition, Christmas trees are used in various stages of oil drilling and exploitation. Considering the high working pressure and contact with corrosive substances, this oil equipment is one of the most complex pieces of equipment in the oil field that Iranian specialists have produced.

Application

- Carrying out maintenance and repairs in the well.
- Connecting the oil well to oil and gas transmission pipes

- The flow of oil and gas from the well to the surface



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Ballast Water Treatment System

Product Introduction

Since environmental protection is among the priorities of the United Nations and the International Maritime Organization, Iranian scientists have paid special attention to this issue. In this regard, an onboard ballast water treatment system has been developed by Iranian specialists. Ballast water is the water used in a ship's ballast tanks to maintain stability when the vessel is not carrying cargo during a voyage. A certain amount of this ballast water always remains in the tanks and is either taken on board or discharged at each port, which can lead to the transfer and introduction of non-indigenous marine species. Therefore, in the process of treating a ship's ballast water, seawater is purified using scientific methods to prevent pollution biological contamination, and mixing of various waters.

Application

Decontamination and disinfection of invasive organisms in the stored water of a ship using biocidal solutions.









CinnoRA (adalimumab)

Product Introduction

CinnoRA (adalimumab) is used to reduce pain and inflammation caused by specific types of arthritis. This medication helps reduce joint effusion (joint swelling) to prevent further joint damage and preserve joint function. It is also used to treat various autoimmune diseases affecting the joints, skin, and digestive system. Iran is the second-largest producer of this medication in the world.

Annlication

Application

Treatment and control of specific types of arthritis (such as rheumatoid, psoriasis, juvenile idiopathic, ankylosing spondylitis) and certain skin disorders (such as plaque psoriasis, and hidradenitis suppurativa).







Bone Allografts

Product Introduction

Bone Grafting is used to repair damaged bones throughout the body. A surgeon may take bone from the hip, leg, or ribs to perform the graft. During the bone grafting procedure, the surgeon places a new piece of bone into the area where bone repair or fusion is needed. The cells inside the new bone can later merge with the existing bone, becoming integrated and strong.

Application

- Orthopedic surgeries, oral and maxillofacial surgeries, ear, nose, and throat (ENT) and reconstructive plastic surgeries

- Bone diseases like osteonecrosis or bone cancer







Halal Gelatin

Product Introduction

Gelatin is a semi-transparent, colorless, brittle, and tasteless solid substance. Halal gelatin is a type of natural and pure protein obtained from the bones and skin of cattle instead of pork. This product is widely consumed in Islamic countries and other regions where there is a preference for halal products.

Application

- Pharmaceutical Industry: Hard gelatin capsules, soft gelatin capsules, tablet coatings, and more.

- Food Industry: Pastilles, toffees, marshmallows, jelly, puddings, dairy products, meat products, beverages, etc.



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Surgeon Assistant Robot

Product Introduction

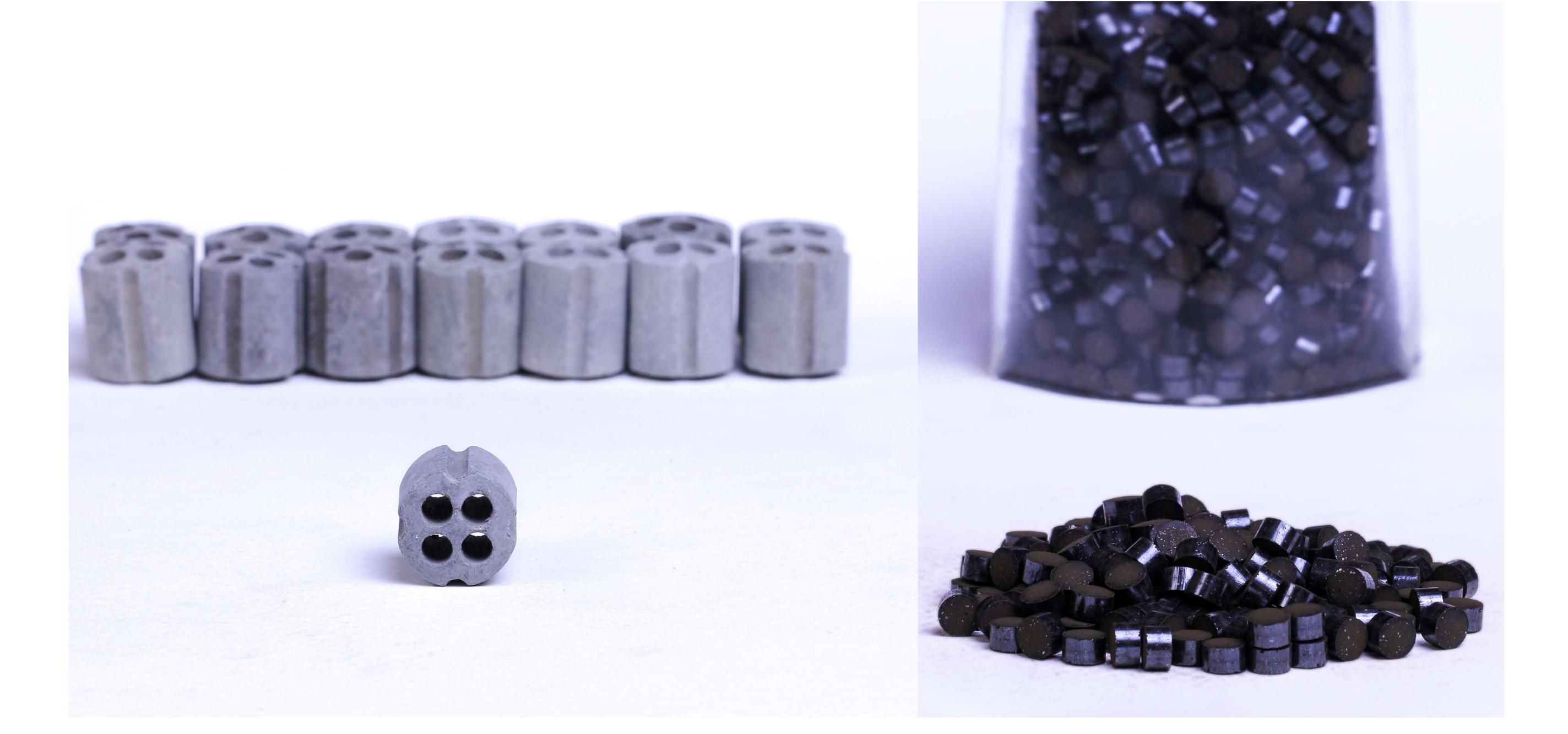
A remote robotic surgical system has been designed and manufactured to reduce injuries and increase the accuracy and quality of various surgeries in the abdominal, pelvic, and thoracic regions. In this system, the surgeon directs the surgical procedure themselves through a robotic system. The movements of the surgeon's hands are recorded by controllers in the surgical console, and simultaneously, surgical robots on the patient's bed replicate these movements within the patient's body. The image of the interior of the patient's abdomen is displayed to the surgeon on a screen in the surgical console using an imaging robot, allowing the surgeon to guide the surgery in real-time.

Application

Remote Surgery







Catalysts Used in Oil, Gas, and Petrochemical Industries

Product Introduction

Catalysts promote the reduction of reaction time, increase efficiency, and enhance the performance of chemical processes conducted in either liquid or solid form. Catalysts play a crucial role in refinery and petrochemical units because the conversion of low-value raw materials into high-value products typically does not occur without catalytic processes.

Application

Used as a catalyst in chemical and petrochemical processes







COVID19- Vaccine

Product Introduction

During the Coronavirus pandemic and the high prevalence of this disease in the world, Iranian companies succeeded in producing various types of COVID19- vaccines, including viral vector, genetic, inactivated, and protein-based vaccines in different fields and research platforms despite international sanctions. They also succeeded in exporting these vaccines to countries in need.

Annlication

Preventing COVID19- infection



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Electrospinning machine

Product Introduction

Nanofibers are nanomaterials that have attracted significant attention in many industrial applications due to their unique physical and chemical properties. The electrospinning process is a simple and widely used method for producing nanofibers. These structures have drawn attention because of their high surface-to-volume ratio and high length-to-diameter ratio, offering great potential for various applications. Less than 10 countries in the world are capable of producing nanofibers.

Application

- Consumer Goods
- Defense and Security
- Electronics
- Energy
- Biology and Life Sciences
- Mechanics/Chemistry/Environment
- Sensors and Precision Instrumentation
- Thermal and Acoustic Insulation
- Transportation